ಕರ್ನಾಟಕ ವಿಧಾನ ಪರಿಷತ್ತು

1. ಚುಕ್ಕೆ ಗುರುತಿಲ್ಲದ ಪ್ರಶ್ನೆ ಸಂಖ್ಯೆ	:	462 (520)
2. ವಿಧಾನ ಪರಿಷತ್ತಿನ ಸದಸ್ಯರ ಹೆಸರು	:	ಶ್ರೀ ರಘುನಾಥ್ ರಾವ್ ಮಲ್ಕಾಪುರೆ
3. ಉತ್ತರಿಸಬೇಕಾದ ದಿನಾಂಕ	:	09.03.2020
4. ಉತ್ತರಿಸಬೇಕಾದ ಸಚಿವರು	:	ಮಾನ್ಯ ಅರಣ್ಯ, ಜೀವಿಪರಿಸ್ಥಿತಿ ಮತ್ತು ಪರಿಸರ ಸಚಿವರು.

ಸಂಖ್ಯೆ	ಪ್ರಶ್ನೆ	ಉತ್ತರ
(ಅ)	ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆಯ ವ್ಯಾಪ್ತಿಯಲ್ಲಿ ಗಾಳಿ ಮತ್ತು ನೀರಿನಲ್ಲಿ ಹಾನಿಕಾರಕ ವಸ್ತುಗಳ ಪ್ರಮಾಣವೆಷ್ಟು (ವಾಯುಮಾಲಿನ್ಯ ಮತ್ತು ಜಲಮಾಲಿನ್ಯದ ಪ್ರಮಾಣದ ವಿವರ ನೀಡುವುದು)	ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆಯ ವ್ಯಾಪ್ತಿಯಲ್ಲಿ ವಾಯು ಮತ್ತು ಜಲವನ್ನು ಮಾಪನ ಮಾಡಿರುವ ವಿವರ ಈ ಕೆಳಕಂಡಂತಿದೆ. **ಅ. ವಾಯು ಮಾಲಿನ್ಯ** : 2018-19 ನೇ ಸಾಲಿನಲ್ಲಿ ಬೆಂಗಳೂರು ನಗರದ 20 ವಿವಿಧ ವಲಯ ಸ್ಥಳಗಳಲ್ಲಿ ಮಾಪನ ಮಾಡಿದ ಪರಿವೇಷ್ಟಕ ವಾಯುಗುಣಮಟ್ಟದ ವಾರ್ಷಿಕ ಸರಾಸರಿ ಪ್ರಮಾಣದ ಪ್ರಕಾರ ಗಂಧಕದ ಡೈಆಕ್ಸೈಡ್, ಸಾರಜನಕದ ಡೈಆಕ್ಸೈಡ್, ಅಮೋನಿಯ ಮತ್ತು ಸೀಸ ನಿಗಧಿತ ರಾಷ್ಟ್ರೀಯ ಮಿತಿಯೊಳಗಿರುತ್ತವೆ. ಧೂಳಿನ ಕಣಗಳ ವಾರ್ಷಿಕ ಸರಾಸರಿ ಪ್ರಮಾಣ PM_{10} – 89.98 $\mu g/m^3$ ಮತ್ತು $PM_{2.5}$ – 42.37 $\mu g/m^3$ ಇರುತ್ತದೆ. 2018-19ನೇ ಸಾಲಿನಲ್ಲಿ ಕರ್ನಾಟಕ ರಾಜ್ಯ ಮಾಲಿನ್ಯ ನಿಯಂತ್ರಣ ಮಂಡಳಿಯು ಬೆಂಗಳೂರು ನಗರದ ವಾಯುಗುಣಮಟ್ಟವನ್ನು ಮಾಪನ ಮಾಡಿ ಸಲ್ಲಿಸಿರುವ ವರದಿಯನ್ನು **ಅನುಬಂಧ-1** ರಲ್ಲಿ ಲಗತ್ತಿಸಲಾಗಿದೆ. **ಆ. ಜಲ ಮಾಲಿನ್ಯ** : ಬೆಂಗಳೂರು ನಗರದಲ್ಲಿ ಅರ್ಕಾವತಿ ನದಿ ಪಾತ್ರದ ತಿಪ್ಪಗೊಂಡನಹಳ್ಳಿ ಜಲಾಶಯ ಸ್ಥಳದಲ್ಲಿ ಕರ್ನಾಟಕ ರಾಜ್ಯ ಮಾಲಿನ್ಯ ನಿಯಂತ್ರಣ ಮಂಡಳಿಯು ಪ್ರತಿ ತಿಂಗಳು ನೀರಿನ ಮಾದರಿಗಳನ್ನು ಸಂಗ್ರಹಿಸಿ ವಿಶ್ಲೇಷಣೆ ಮಾಡುತ್ತಿದೆ. 2018-19 ಸಾಲಿನ ವರದಿ ಪ್ರಕಾರ ನೀರಿನ ಗುಣಮಟ್ಟವು ವರ್ಗ "ಡಿ" – ವನ್ಯಜೀವಿಗಳ ಉಳಿವು, ಪ್ರಸರಣ, ಮೀನುಗಾರಿಕೆಗೆ ಯೋಗ್ಯವಾಗಿರುತ್ತದೆ ಮತ್ತು Bio Chemical Oxygen Demand (BOD) – 5 mg/ltr (ವಾರ್ಷಿಕ ಸರಾಸರಿ ಪ್ರಮಾಣ) ಇರುತ್ತದೆ. ವಿವರಗಳನ್ನು **ಅನುಬಂಧ-2** ರಲ್ಲಿ ಲಗತ್ತಿಸಲಾಗಿದೆ. ಬೆಂಗಳೂರು ನಗರದಲ್ಲಿನ ಪ್ರಮುಖವಾದ 58 ಕೆರೆಗಳ ನೀರಿನ ಮಾದರಿಗಳನ್ನು ಕರ್ನಾಟಕ ರಾಜ್ಯ ಮಾಲಿನ್ಯ ನಿಯಂತ್ರಣ ಮಂಡಳಿಯು ಪ್ರತಿ ತಿಂಗಳು ಸಂಗ್ರಹಿಸಿ ವಿಶ್ಲೇಷಣೆ ಮಾಡುತ್ತಿದೆ. 2018-19 ಸಾಲಿನ ವರದಿ ಪ್ರಕಾರ ನೀರಿನ ಗುಣಮಟ್ಟವು ವರ್ಗ "ಡಿ" – ವನ್ಯಜೀವಿಗಳ ಉಳಿವು, ಪ್ರಸರಣ, ಮೀನುಗಾರಿಕೆಗೆ ಯೋಗ್ಯವಾಗಿರುತ್ತದೆ ಮತ್ತು ವರ್ಗ "ಇ" - ನೀರಾವರಿ, ಕೈಗಾರಿಕಾ ಶೈತ್ಯೀಕರಣ, ನಿಯಂತ್ರಿತ ತ್ಯಾಜ್ಯ ವಿಲೇವಾರಿಗೆ ಯೋಗ್ಯವಾಗಿರುತ್ತದೆ ವಿವರವಾಗಿ **ಅನುಬಂಧ-3** ರಲ್ಲಿ ಲಗತ್ತಿಸಲಾಗಿದೆ.
(ಆ)	ನಿಯಮಗಳ ಪ್ರಕಾರ ಸಾಮಾನ್ಯ ಮಾಲಿನ್ಯ ಪ್ರಮಾಣವೆಷ್ಟು : ಈಗ ಇರುವ ಹೆಚ್ಚುವರಿ	**ಅ. ವಾಯು ಮಾಲಿನ್ಯ** : ಕೇಂದ್ರ ಸರ್ಕಾರದ ಪರಿಸರ, ಅರಣ್ಯ ಮತ್ತು ಹವಾಮಾನ ಬದಲಾವಣೆ ಮಂತ್ರಾಲಯದ ಅಧಿಸೂಚನೆಯ

		ವಾಹನಗಳನ್ನು ಕರ್ನಾಟಕ ರಾಜ್ಯ ಮಾಲಿನ್ಯ ನಿಯಂತ್ರಣ ಮಂಡಳಿಯು ಖರೀದಿಸಿದ್ದು, ಈ ಹನ್ನೆರಡು ವಾಹನಗಳ ಪೈಕಿ ಆರು ವಾಹನಗಳನ್ನು ಬೆಂಗಳೂರು ನಗರಕ್ಕೆ ಹಂಚಿಕೆ ಮಾಡಲಾಗಿದೆ. ಈ ವಾಹನಗಳನ್ನು ಮಂಡಳಿ, ಸಾರಿಗೆ ಇಲಾಖೆ, ಪೋಲೀಸ್ ಇಲಾಖೆ, ಬಿ.ಎಂ.ಟಿ.ಸಿ ಮತ್ತು ಕೆ.ಎಸ್.ಆರ್.ಟಿ.ಸಿ ಸಂಸ್ಥೆಗಳ ಅಧಿಕಾರಿಗಳನ್ನೊಳಗೊಂಡು ಜಂಟಿ ತಪಾಸಣೆ ಕಾರ್ಯಾಚರಣೆ ಮಾಡಲು ಬಳಸಲಾಗುತ್ತಿದೆ. • ವಾಯುಮಾಲಿನ್ಯ ತಡೆಗಟ್ಟುವ ಬಗ್ಗೆ ಹೆಚ್ಚು ಮಾಹಿತಿ ನೀಡಲು ಕಾರ್ಯಾಗಾರ ಮತ್ತು ಸಭೆಗಳನ್ನು ಕರ್ನಾಟಕ ರಾಜ್ಯ ಮಾಲಿನ್ಯ ನಿಯಂತ್ರಣ ಮಂಡಳಿಯ ಕಛೇರಿಗಳಲ್ಲಿ, ಕಾರ್ಖಾನೆಗಳಲ್ಲಿ ಹಾಗೂ ಸಂಬಂಧಿಸಿದ ಸಂಘ ಸಂಸ್ಥೆಗಳಲ್ಲಿ ನಿಯಮಿತವಾಗಿ ಕರ್ನಾಟಕ ರಾಜ್ಯ ಮಾಲಿನ್ಯ ನಿಯಂತ್ರಣ ಮಂಡಳಿ ವತಿಯಿಂದ ಹಮ್ಮಿಕೊಳ್ಳಲಾಗುತ್ತಿದೆ. ಕರ್ನಾಟಕ ರಾಜ್ಯ ಮಾಲಿನ್ಯ ನಿಯಂತ್ರಣ ಮಂಡಳಿಯ ಅಂತರ್ಜಾಲ ಹಾಗೂ ಪತ್ರಿಕೆ ಪ್ರಕಟಣೆಗಳ ಮುಖಾಂತರ ವಾಯು ಮಾಲಿನ್ಯ ನಿಯಂತ್ರಿಸುವ ನಿಟ್ಟಿನಲ್ಲಿ ತಿಳುವಳಿಕೆ ನೀಡಲಾಗುತ್ತಿದೆ. • ವಾಯುಮಾಲಿನ್ಯ ನಿಯಂತ್ರಣಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಪ್ರತಿ ವರ್ಷ ನವೆಂಬರ್ ಮಾಹೆಯನ್ನು ವಾಯುಮಾಲಿನ್ಯ ನಿಯಂತ್ರಣ ಜನಜಾಗೃತಿ ಮಾಸವನ್ನಾಗಿ ಆಚರಿಸುತ್ತಿದ್ದು, ಈ ಆಚರಣೆಯ ಸಂದರ್ಭದಲ್ಲಿ ಶಾಲಾ-ಕಾಲೇಜು ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಪ್ರಬಂಧ ಸ್ಪರ್ಧೆ, ಚಿತ್ರ ಬಿಡಿಸುವ ಸ್ಪರ್ಧೆ, ಚರ್ಚಾ ಕೂಟಗಳನ್ನು ಏರ್ಪಡಿಸುವುದಲ್ಲದೆ, ವಾಹನ ಚಾಲಕರುಗಳಿಗೆ ಪುನರ್-ಮನನ ತರಬೇತಿ ಕಾರ್ಯಕ್ರಮಗಳನ್ನೂ ಸಹ ಆಯೋಜಿಸುವ ಮೂಲಕ ವಾಯುಮಾಲಿನ್ಯ ನಿಯಂತ್ರಣ ಬಗ್ಗೆ ತಿಳುವಳಿಕೆ ನೀಡಲಾಗುತ್ತಿದೆ.

ಸಂಖ್ಯೆ: ಅಪಜೀ 66 ಇಪಿಸಿ 2020

(ಆನಂದ್ ಸಿಂಗ್)
ಅರಣ್ಯ, ಜೀವಿಪರಿಸ್ಥಿತಿ ಮತ್ತು ಪರಿಸರ ಸಚಿವರು.

ಅನುಬಂಧ-1

Annual average values of Air Pollutants at Bengaluru city during the year 2018-19

Sl. No	Name of the Station	SO_2 µg/m³	NO_2 µg/m³	PM_{10} µg/m³	$PM_{2.5}$ µg/m³	NH_3 µg/m³	Pb µg/m³	O_3 µg/m³	CO mg/m³	AQI	Category
1	Export promotional Park, ITPL, Whitefield Industrial Area	2.0	33.3	121.7	49.8	25.2	0.122	*	*	114	Moderate
2	Rail Wheel Factory, Yelahanka	2.0	32.7	105.9	*	25.2	0.071	*	*	104	Moderate
3	Yeshwanthpura Police Station	2.0	33.0	102.0	46.5	25.2	0.112	*	*	101	Moderate
4	Central Silk Board, Hosur Road	2.1	32.5	124.0	59.5	25.9	0.108	*	*	116	Moderate
5	City Railway Stn(CAAQMS)	6.8	39.0	126.0	*	*	*	*	1.6	117	Moderate
6	Central Silk Board (CAAQMS)	6.9	32.2	103.9	39.6	21.5	*	29.1	1.0	103	Moderate
7	Urban Ecopark Peenya	2.0	33.0	96.0	41.5	27.3	0.169	*	*	96	Satisfactory
8	Swan Silk Pvt. Ltd., Peenya	2.0	32.9	97.5	44.5	25.5	0.135	*	*	98	Satisfactory
9	AMCO Batteries, Mysore Road	2.0	33.4	100.5	43.9	26.8	0.186	*	*	100	Satisfactory
10	Banaswadi police station	2.0	27.8	67.7	*	24.7	0.035	*	*	68	Satisfactory
11	S.G.Halli (CAAQMS)	3.9	22.9	58.8	60.0	12.9	*	*	0.9	59	Satisfactory
12	Kajisonnenahalli	2.0	32.2	86.5	53.0	24.7	0.143	*	*	88	Satisfactory
13	TERI Office, Domlur	2.0	34.7	84.8	40.0	26.4	0.058	*	*	85	Satisfactory
14	UVCE, K.R Circle	2.0	28.9	75.0	34.0	25.0	0.092	*	*	75	Satisfactory
15	Victoria Hospital, Bengaluru	2.0	32.5	65.8	27.5	25.2	0.037	*	*	66	Satisfactory
16	Indira Gandhi Child Health Care Centre	2.0	32.7	69.7	37.0	25.1	0.033	*	*	70	Satisfactory
17	Veternary College, Hebbal (CAAQMS)	4.7	29.5	70.1	34.9	16.7	*	33.9	0.9	70	Satisfactory

Sl. No	Name of the Station	SO_2 µg/m³	NO_2 µg/m³	PM 10 µg/m³	PM 2.5 µg/m³	NH_3 µg/m³	Pb µg/m³	O_3 µg/m³	CO mg/m³	AQI	Category
18	Jayanagara 5th Block (CAAQMS)	7.3	35.9	87.2	38.0	24.1	*	35.7	1.1	87	Satisfactory
19	Kavika, Mysore Road(CAAQMS)	8.3	48.5	87.6	40.0	15.3	*	37.3	0.9	88	Satisfactory
20	Rajeev Gandhi Institute of Chest Diseases, NIMHANS (CAAQMS)	7.0	28.5	68.9	30.6	15.2	*	51.6	0.6	69	Satisfactory
	Average values	**3.55**	**32.8**	**89.98**	**42.37**	**23.0**	**0.1**	**37.5**	**1.0**	**88.7**	**Satisfactory**
	Standards, µg/m3	**50.0**	**40.0**	**60.0**	**40.0**	**100.0**	**0.500**	**100.0**	**2.0**		**(51-100) Satisfactory**

Note : * Monitoring not carried out

Air quality index (PM10 & PM2.5) - Min 3 Parameters

Good → 0-50

Satisfactory → 51-100

Moderate → 101-200

201-300

ಅನುಬಂಧ-೨

Water Quality Classification of Polluted River Stretches during the year 2018-19

Sl. No.	River Name	River Stretch	Monitoring Station/Location	April-18 DO (mg/L)	April-18 BOD (mg/L)	April-18 FC (MPN/100ml)	April-18 TC (MPN/100ml)	May-18 DO (mg/L)	May-18 BOD (mg/L)	May-18 FC (MPN/100ml)	May-18 TC (MPN/100ml)	Jun-18 DO (mg/L)	Jun-18 BOD (mg/L)	Jun-18 FC (MPN/100ml)	Jun-18 TC (MPN/100ml)
1	ARKAVATHI	THIPPAGONDANA HALLI RESERVOIR TO KANAKAPURA TOWN	At D/S of Kanakapura	3.9	10	7600	160000	3.9	5	7900	160000	4	9	9400	54000
			T.G. Halli Reservoir	5	8	17	49	5.6	6	130	350	6.2	4	220	1600
2	LAKSHMANTIRTHA	HUNSUR TO KATTEMALAVADI	D/S of Hunsur Town	*	*	*	*	*	*	*	*	6.5	2.40	390	2100
			D/S of Kattemalavadi	*	*	*	*	*	*	*	*	6.50	2	380	1500
3	MALAPRABHA	KHANAPUR TO RAMDURG	At D/S of Aihole Town	7.2	3.37	500	1600	7.2	4.5	900	1600	9.2	1.86	900	1600
			At D/S of Khanapur Village	*	*	*	*	*	*	*	*	8.8	2.42	900	1600
			At Badami Bridge	7.7	3.52	900	1600	7	3.18	900	1600	9.5	1.74	900	1600
4	TUNGABHADRA	HARIHARA TO HARLAHALLI BRIDGE	At Honnali Bridge	7.4	2.5	1700	2800	7.3	3	1000	1800	6.9	2.4	1700	3500
			At Ullanur Bridge	7	2.4	500	900	*	*	*	*	7.4	2.4	600	1800
			At Haralahalli Bridge	7.2	2.6	700	1700	7.3	2.9	1400	2800	7.1	2.8	900	1700
			Confluence point of Tunga and Bhadra at Kudli	7.2	2.6	900	2200	7.2	3	17000	28000	7.2	2.5	7000	17000
			D/S of HPF	5.9	3.8	900	2200	5.8	3	1700	3500	6.3	4	1100	2200
			At Jack Well Point	5.4	3	1100	1700	5.5	2.8	1100	2200	6.5	2.6	1400	2800
			At Harihar Water Supply Intake point	6.9	3	3000	5000	6.9	4.4	11000	30000	6.4	3	5000	9000
5	BHADRA	HOLEHUNNUR TO BHADRAVATHI	Near Holehonnur	7	3	1300	3000	6.8	3.6	30000	50000	6.8	4	17000	30000
			D/S of Bhadravathi City	6.8	3.8	3000	5000	7	4	50000	90000	7	3.9	50000	30000

Water Quality Classification of Polluted River Stretches during the year 2018-19

Sl. No.	River Name	River Stretch	Monitoring Station/Location	Water Quality Data											
				Jul-18				Aug-18				Sep-18			
				DO (mg/L)	BOD (mg/L)	FC (MPN/ 100ml)	TC (MPN/ 100ml)	DO (mg/L)	BOD (mg/L)	FC (MPN/ 100ml)	TC (MPN/ 100ml)	DO (mg/L)	BOD (mg/L)	FC (MPN/ 100ml)	TC (MPN/ 100ml)
1	ARKAVATHI	THIPPAGONDANA HALLI RESERVOIR TO KANAKAPURA TOWN	At D/S of Kanakapura	4	9	4600	92000	4.5	4	12000	160000	4.8	4	940	5400
			T.G. Halli Reservoir	5.8	3	700	5400	5.6	2	330	5400	5.8	4	2800	9200
2	LAKSHMANTIRTHA	HUNSUR TO KATTEMALAVADI	D/S of Hunsur Town	6.6	2.1	320	1700	6.9	1.6	260	1200	6.8	1.68	200	1300
			D/S of Kattemalavadi	6.2	2.4	310	1500	6.5	1.56	270	1400	6.9	1.34	330	1700
3	MALAPRABHA	KHANAPUR TO RAMDURG	At D/S of Aihole Town	7.5	2.7	900	1600	7.4	0.54	500	1600	6.9	3.42	900	1600
			At D/S of Khanapur Village	7.8	0.67	900	1600	8.1	0.66	900	1600	7.5	0.78	900	1600
			At Badami Bridge	7.5	2.9	900	1600	7.3	0.9	500	1600	6.8	1.5	500	900
4	TUNGABHADRA	HARIHARA TO HARLAHALLI BRIDGE	At Honnali Bridge	7.3	2.4	1400	2800	6.8	2.6	900	1600	7.3	2.4	900	1600
			At Ullanur Bridge	7	2	700	3200	7.4	3	1000	3200	7	2	300	1600
			At Haralahalli Bridge	7.3	2.4	900	1600	7.1	2.6	500	1600	7.3	2.4	1100	1700
			Confluence point of Tunga and Bhadra at Kudli	7.2	3	1100	2800	7.8	2.4	500	1600	7.2	2.5	900	1700
			D/S of HPF	6.9	3	900	1700	6.8	3	500	1600	6.8	3.3	700	1700
			At Jack Well Point	6.9	2.6	500	1600	6.8	2.6	500	900	6.7	2.6	1400	2200
			At Harihar Water Supply Intake point	7	3	1700	3000	6.9	2.8	900	2200	7	3.2	1700	3500
5	BHADRA	HOLEHUNNUR TO BHADRAVATHI	Near Holehonnur	6.8	4	5000	9000	6.8	2.8	2200	5000	6.8	3	1400	2200
			D/S of Bhadravathi City	7	5.2	17000	28000	7.2	3.8	5000	14000	7	4	5000	9000

Water Quality Classification of Polluted River Stretches during the year 2018-19

Sl. No.	River Name	River Stretch	Monitoring Station/Location	Water Quality Data											
				Oct-18				Nov-18				Dec-18			
				DO (mg/L)	BOD (mg/L)	FC (MPN/ 100ml)	TC (MPN/ 100ml)	DO (mg/L)	BOD (mg/L)	FC (MPN/ 100ml)	TC (MPN/ 100ml)	DO (mg/L)	BOD (mg/L)	FC (MPN/ 100ml)	TC (MPN/ 100ml)
1	ARKAVATHI	THIPPAGONDANA HALLI RESERVOIR TO KANAKAPURA TOWN	At D/S of Kanakapura	7	2	940	16000	4.7	6	46	350	4.8	4	4800	3500
			T.G. Halli Reservoir	4.3	6	17000	160000	7	3	1300	9200	5.2	4	330	3500
2	LAKSHMANTIRTHA	HUNSUR TO KATTEMALAVADI	D/S of Hunsur Town	6.8	1.7	220	1200	6.2	2.5	290	2400	6.5	2.6	260	1700
			D/S of Kattemalavadi	6.7	1.46	310	1500	6	2.3	380	1700	6.9	1.2	390	1400
3	MALAPRABHA	KHANAPUR TO RAMDURG	At D/S of Aihole Town	5.6	1.42	500	1600	5.7	0.66	900	1600	8.2	2.34	900	1600
			At D/S of Khanapur Village	7.2	0.54	500	900	8.2	1.02	900	1600	6.6	0.66	500	1600
			At Badami Bridge	4.5	1.72	500	900	7.4	0.42	900	1600	6.8	0.54	900	1600
4	TUNGABHADRA	HARIHARA TO HARLAHALLI BRIDGE	At Honnali Bridge	7.3	3	900	2200	7.4	3	1300	2400	7	2	22	86
			At Ullanur Bridge	7.2	2	80	240	7.2	2	90	350	7	2	22	86
			At Haralahalli Bridge	7.4	2.4	700	1400	7.6	2.4	900	1600	7.6	2.8	1200	2800
			Confluence point of Tunga and Bhadra at Kudli	7.8	2.4	900	1600	7.8	2.8	700	1700	6.8	2.8	700	1700
			D/S of HPF	5.6	3.8	800	2200	5.6	3.8	900	2200	5.7	6.3	900	1700
			At Jack Well Point	5.7	3	800	1700	5.5	2.8	1100	2200	5.8	3	1100	2200
			At Harihar Water Supply Intake point	6.8	5	1700	3000	6.5	3.5	1700	3500	6.7	3.8	2200	5000
5	BHADRA	HOLEHUNNUR TO BHADRAVATHI	Near Holehonnur	7	3	1100	2800	6.8	3	1400	3500	7.8	3	1400	3500
			D/S of Bhadravathi City	7.2	5	3000	5000	7.2	4	9000	5000	6.8	4	5000	9000

Water Quality Classification of Polluted River Stretches during the year 2018-19

Sl. No.	River Name	River Stretch	Monitoring Station/Location	Water Quality Data											
				Jan-19				Feb-19				Mar-19			
				DO (mg/L)	BOD (mg/L)	FC (MPN/ 100ml)	TC (MPN/ 100ml)	DO (mg/L)	BOD (mg/L)	FC (MPN/ 100ml)	TC (MPN/ 100ml)	DO (mg/L)	BOD (mg/L)	FC (MPN/ 100ml)	TC (MPN/ 100ml)
1	ARKAVATHI	THIPPAGONDANA HALLI RESERVOIR TO KANAKAPURA TOWN	At D/S of Kanakapura	6.1	5	630	5400	4.8	5	6300	54000	5.7	6	2200	5400
			T.G. Halli Reservoir	4.3	10	490	9200	4.6	8	840	9200	5.9	4	1700	5400
2	LAKSHMANTIRTHA	HUNSUR TO KATTEMALAVADI	D/S of Hunsur Town	4.5	3.5	260	2100	5.2	1.86	680	3900	6	2.5	320	1700
			D/S of Kattemalavadi	5	3	390	2100	5.2	3.0	680	3900	*	*	*	*
3	MALAPRABHA	KHANAPUR TO RAMDURG	At D/S of Aihole Town	5.4	2.32	900	1600	5.7	2.94	900	1600	7.3	1.87	900	1600
			At D/S of Khanapur Village	7.5	1.72	900	1600	6	2.82	900	1600	7.1	2.77	900	1600
			W/A point to Hubli Dharwad at Saundatti.	7.5	1.72	900	1600	11.9	2.82	900	1600	8.4	1.02	900	1600
			At Badami Bridge	6.5	1.26	500	1600	6.6	0.66	500	1600	7.3	2.32	900	1600
4	TUNGABHADRA	HARIHARA TO HARLAHALLI BRIDGE	At Honnali Bridge	6.5	1.38	500	1600	6.5	3	1700	3000	7.2	2.4	1700	2200
			At Ullanur Bridge	7.2	2.5	68	284	7	2	24	68	6.9	2.3	38	96
			At Haralahalli Bridge	7.1	2.1	900	1400	5.9	3	—	—	*	*	*	*
			Confluence point of Tunga and Bhadra at Kudli	6.2	2.4	900	1600	7.8	2.4	1300	2400	7.4	2.8	1100	2200
			D/S of HPF	5.4	4.8	900	2200	5.6	4	1300	2400	6.6	3.9	1300	2200
			At Jack Well Point	6.1	2.6	800	1700	5.8	3	1100	2200	6.6	3.9	1300	2200
			At Harihar Water Supply Intake point	6.5	5.6	8000	14000	6.4	4.8	9000	17000	6.7	3.5	5000	9000
5	BHADRA	HOLEHUNNUR TO BHADRAVATHI	Near Holehonnur	7.8	2.6	1700	3500	7.4	3	3000	5000	7.2	3	1700	3000
			D/S of Bhadravathi City	6.6	3.3	500	11000	6.8	4.2	8000	14000	6.4	3.4	7000	11000

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Classification of River Water Quality under National Water Qaulity Monitoring Programme from April - 2018 to March– 2019

Lakes/ Tanks Water

Monitoring of Indian National Aquatic Resource System (MINARS)

Sl. No	Station code	Monitoring Station	Regional Office	Apr-18		May-18		Jun-18		Jul-18		Aug-18		Sep-18		Oct-18		Nov-18		Dec-18		Jan-19		Feb-19		Mar-19	
				Class	WQI	Class	WQI	Class	WQI	Class	WQI	Class	WQI	Class	WQI	Class	WQI	Class	WQI	Class	WQI	Class	WQI	Class	WQI	Class	WQ
1	3589	Madiwala Lake		D	US	**	**	D	US	D	US	D	US	E	US	E	US	E	US	E	US	E	US	E	US	*	*
2	3602	Belfandur lake		E	US	**	**	E	US	E	US	E	US	E	US	E	US	E	US	E	US	D	US	D	US	*	*
3	3609	Ibblur Lake		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
4	3611	Kaikondanahalli Lake		D	US	**	**	E	US	D	US	D	US	D	US	E	US	E	US	E	US	D	US	E	US	*	*
5	3612	Agaram lake		D	US	**	**	E	US	E	US	D	US	E	US	D	US	D	US	D	US	E	US	E	US	*	*
6	3613	Gottegre lake		*	*	*	*	*	*	*	*	D	US	D	US	E	US	E	US	E	US	*	*	*	*	*	*
7	3614	Puttenahalli lake (s)		D	US	**	**	D	US	D	US	D	US	E	US	D	US	D	US	D	US	D	US	D	US	*	*
8	3615	Arakere lake	Bommanahalli	D	US	**	**	E	US	D	US	D	US	E	US	E	US	E	US	E	US	D	US	E	US	*	*
9	3616	Kalena agrahara lake		**	**	**	**	**	**	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10	3617	Hulimavu lake		E	US	**	**	E	US	D	US	D	US	E	US	E	US	E	US	E	US	E	US	D	US	*	*
11	3618	Singasandra lake		D	US	**	**	E	US	D	US	E	US	E	US	E	US	E	US	E	US	D	US	D	US	*	*
12	3619	Begur tank		D	US	**	**	E	US	E	US	E	US	**	**	**	**	**	**	**	**	**	**	**	**	*	*
13	3620	Parappana agrahara lake		D	US	**	**	E	US	D	US	E	US	D	US	E	US	E	US	E	US	D	US	D	US	*	*
14	3621	Harlur Lake		D	US	**	**	E	US	D	US	E	US	D	US	E	US	E	US	E	US	E	US	E	US	*	*
15	3622	Somasundra palya lake		E	US	**	**	E	US	D	US	E	US	**	**	**	**	**	**	**	**	**	**	**	**	*	*
16	3594	Sankey Tank	BNG-City - West	D	US	D	US	D	US	D	US	D	US	D	US	D	US	D	US	D	US	D	US	D	US	D	US
17	3603	Vengaihnakere Tank		D	US	D	US	D	US	D	US	D	US	D	US	D	US	D	US	D	US	D	US	D	US	D	US
18	3604	Doddanakundi tank		D	US	D	US	D	US	D	US	D	US	D	US	D	US	D	US	D	US	E	US	E	US	D	US
19	3605	Yellamallappa tank		D	US	D	US	D	US	D	US	D	US	D	US	D	US	D	US	D	US	*	*	D	US	D	US
20	3607	Kalkere tank	Mahadevapura	**	**	**	**	**	**	**	**	**	**	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21	3608	Varthur lake		D	US	D	US	D	US	D	US	D	US	D	US	D	US	D	US	D	US	E	US	E	US	E	US
22	3610	Tubrahalli Lake		D	US	D	US	E	US	D	US	D	US	D	US	D	US	D	US	D	US	E	US	D	US	D	US
23	3643	Beenniganahalli tank		*	*	*	*	E	US	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**
24	3623	Anekal Doddakere Tank	Anekal	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
25	3642	Jigani tank		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
26	3631	Nagarakere tank	Sarjapura	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
27	3593	Ulsoor Lake near Temple	BNG-City East	D	US	D	US	D	US	D	US	D	US	**	**	**	**	**	**	**	**	D	US	D	US	D	US
28	3595	Byrasandra tank		D	US	D	US	D	US	D	US	D	US	**	**	D	US	D	US	D	US	E	US	E	US	D	US

Classification of River Water Quality under National Water Qaulity Monitoring Programme from April - 2018 to March - 2019

Sl. No	Station code	Monitoring Station	Regional Office	Apr-18		May-18		Jun-18		Jul-18		Aug-18		Sep-18		Oct-18		Nov-18		Dec-18		Jan-19		Feb-19		Mar-19	
				Class	WQI	Class	WQI	Class	WQI	Class	WQI	Class	WQI	Class	WQI	Class	WQI	Class	WQI	Class	WQI	Class	WQI	Class	WQI	Class	WQ
29	3597	Hesaraghatta tank		D	US	D	US	D	US	D	US	D	US	C	S	D	US	D	US	D	US	D	US	D	US	D	US
30	3598	Herohalli tank		D	US	D	US	D	US	D	US	E	US	D	US	D	US	D	US	D	US	D	US	E	US	D	US
31	3599	Madavara Tank		D	US	D	US	D	US	D	US	D	US	D	US	E	US	E	US	E	US	E	US	E	US	D	US
32	3606	Dasarahalli Tank	Dasarahalli	D	US	D	US	D	US	D	US	E	US	D	US	D	US	D	US	D	US	D	US	D	US	D	US
33	4094	Gangondana Halli Lake		—	—	E	US	E	US	E	US	E	US	E	US	E	US	E	US	E	US	E	US	E	US	E	US
34	4095	Chikkabanvara Lake		—	—	D	US	E	US	E	US	E	US	E	US	E	US	E	US	E	US	E	US	E	US	E	US
35	4096	Andhrahalli Lake		—	—	**	**	D	US	D	US	D	US	D	US	D	US	D	US	D	US	D	US	D	US	E	US
36	4097	Kachohalli Lake		—	—	D	US	D	US	D	US	E	US	D	US	E	US	E	US	E	US	D	US	E	US	E	US
37	3596	Nayandanahalli tank		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
38	3633	Subramanyapura tank		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
39	3634	Devarakere Tank		D	US	D	US	D	US	D	US	D	US	D	US	D	US	D	US	D	US	D	US	D	US	D	US
40	3635	Malathahalli tank		E	US	E	US	D	US	E	US	D	US	D	US	D	US	D	US	D	US	E	US	E	US	D	US
41	3636	Bandematta tank	Rajarajeswarinagara	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
42	3639	Kengeri Tank		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
43	3640	Uttarahalli Doraikere		D	US	D	US	D	US	D	US	D	US	D	US	C	S	C	S	C	S	E	US	D	US	D	US
44	3641	Dhorekere		D	US	D	US	D	US	D	US	D	US	D	US	D	US	D	US	D	US	D	US	D	US	D	US
45	3600	Shivapura tank	Peenya	**	**	**	**	**	**	E	US	E	US	E	US	E	US	E	US	E	US	E	US	E	US	E	US
46	3601	Karihobanahalli lake		**	**	**	**	**	**	E	US	E	US	E	US	E	US	E	US	E	US	E	US	E	US	E	US
47	3624	Puttnehalli Lake		**	**	**	**	D	US	**	**	**	**	**	**	D	US	D	US	D	US	D	US	D	US	*	*
48	3625	Hebbal Lake		**	**	**	**	D	US	**	**	D	US	D	US	D	US	D	US	D	US	D	US	D	US	D	US
49	3626	Nagawara Tank		**	**	**	**	D	US	**	**	D	US	D	US	D	US	D	US	D	US	D	US	D	US	D	US
50	3627	Jakkur Lake	Yelahanka	**	**	**	**	E	US	**	**	D	US	D	US	D	US	D	US	D	US	E	US	E	US	D	US
51	3628	Amruthahalli Lake		**	**	**	**	**	**	**	**	**	**	**	**	E	US	E	US	E	US	D	US	D	US	D	US
52	3629	Allasandra Tank		**	**	**	**	E	US	**	**	D	US	D	US	D	US	D	US	D	US	D	US	E	US	E	US
53	3630	Yelahanka Tank		**	**	**	**	E	US	**	**	D	US	D	US	D	US	D	US	D	US	D	US	D	US	D	US
54	3590	Lalbagh tank		D	US	D	US	D	US	D	US	D	US	D	US	**	**	D	US	D	US	D	US	D	US	D	US
55	3591	Kempambudhi lake	BNG-City South	D	US	D	US	D	US	D	US	D	US	D	US	**	**	D	US	D	US	D	US	D	US	E	US
56	3592	Yediyur lake		D	US	D	US	D	US	D	US	D	US	D	US	**	**	D	US	D	US	D	US	D	US	D	US
57	3638	Annaiappa Tank		*	*	D	US	D	US	D	US	D	US	D	US	**	**	D	US	D	US	D	US	D	US	D	US
58	3632	Veerapura Tank	Doddaballpura	D	US	D	US	D	US	D	US	D	US	D	US	D	US	D	US	D	US	E	US	E	US	*	*

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Revised Action plan for Control of Air Pollution in Bengaluru City

1	**Name of the City**	**Bengaluru**
2	**Air Pollution concerns**	**PM_{10}, $PM_{2.5}$, NO_2**
3	**Air pollution levels: (provide range of 24-hourly average concentration values; annual average for past five years; No. days in various AQI categories)**	From the past 5 years data (2014-15 to 2018-19) it was found that, a) Annual average AQI values, the category changed from Moderate (101-200) to **Satisfactory (51- 100).** b) Annual average PM_{10} values shows **28%** decreasing trend compared to 2014-15 results. c) Annual average $PM_{2.5}$ values shows **29%** decreasing trend compared to 2015-16 results. (Graphical representation of Annual average Air Quality Index (AQI), PM_{10} results for 5years (2014-15 to 2018-19) and $PM_{2.5}$ results for 4 years (2015-16 to 2018-19) are enclosed as **Annexure-I**)
4	**Months with high air pollution levels**	January, February, November, December
5	**Action plan:**	

Source group	**Sl No** – **New No**	**Sl No** – **Old No**	**Action Points**	**Implementation period (Short- Mid- Long) term**	**Time Target for implementation**	**Responsible Agency**	**Actions are in Progress**
Vehicles	1	1	The restriction on use of two stroke vehicles in phased manner (2-Stroke, 3-stroke) in Bengaluru city.	Long	March 2020	Transport Department	All the Auto rickshaws plying in Bengaluru city are converted into Bi-fuel mode (LPG + Petrol).

<table>
<tr><td></td><td>2</td><td>2</td><td>To check the calibration of emission monitoring equipments, housed in Emission Testing Centers (ETCs) once in six months to know the status of equipments.</td><td>Mid</td><td>December -2019</td><td>Transport Department</td><td>All the emission testing centers in Karnataka State are connected to online network system and also these centers are being audited on a regular basis. At the time of inspection, status of equipments functioning at the centers are also being checked for calibration and AMC as well.</td></tr>
<tr><td></td><td>3</td><td>3</td><td>Launch Extensive drive against polluting vehicles for ensuring strict compliances and regulate the traffic</td><td>Short</td><td>It is a continuous program and in progress</td><td>Transport Department</td><td>The Transport Department has been checking vehicular air pollution and noise pollution in Bengaluru City. The details of action taken by the Department have been published in newspapers in order to bring awareness about road safety, air pollution/ sound pollution.
The Transport Department has taken action to control air and noise pollution in Bengaluru. The checking details for the years 2018-19 & 2019-20 (April-19 and May-19) in Bengaluru city are as follows:-<table>
<tr><th rowspan="2">Particular</th><th colspan="2">No. of MVs Checked</th><th colspan="2">No. of cases Booked</th><th colspan="2">Fine Collected (Rs.)</th></tr>
<tr><th>2018-19</th><th>19-20</th><th>18-19</th><th>19-20</th><th>18-19</th><th>19-20</th></tr>
<tr><td>Air Pollution</td><td>307152</td><td>51006</td><td>18669</td><td>3148</td><td>7644500</td><td>2546000</td></tr>
<tr><td>Noise Pollution</td><td>1640017</td><td>40158</td><td>36691</td><td>1162</td><td>37979800</td><td>628600</td></tr>
</table>The checking of vehicles is also being carried out throughout the State for control of air and noise pollution.</td></tr>
</table>

Vehicles	4	4	Installation of remote sensor based Pollution Under Control (PUC) system	Long	March-2020	Transport Department	The Transport Department has intended to enter into a memorandum of understanding (MOU) with Azim Premji Philanthropic Initiatives Pvt Ltd. Bengaluru and Clean Air Platform to work on the following:- 1. Assistance for conducting pilot of on-road remote sensing of vehicle emissions in Bengaluru as per directions of the Hon'ble Supreme Court of India. 2. Conduct on road real world emission testing of vehicles in Bengaluru and public engagement campaign to raise awareness against use of highly polluting vehicles (study, research, policy making) 3. Support technology assessment and pilots for retrofitting of particulate filers in diesel vehicles.
Vehicles	5	5	Steps to promote battery operated vehicles	Long	March 2022	Transport Department	The Government of Karnataka under the powers vested under section 74(3)(A) of Motor Vehicles Act 1988, has issued Notification No. 168 SAEPA 20158 (P), dt:6.5.2016 and published e-rickshaw scheme prescribing general conditions and permit conditions for the purpose of authorizing the operation of e-rickshaw vehicles throughout Karnataka State, except in the areas of BBMP limits. Further, the Government vide Notification No. SARIE 76 ASEPA 2016, dated 31.3.2016 has exempted all transport and non-transport battery operated vehicles from payment of road tax w.e.f.1.4.2016. Accordingly, the Transport Department has issued necessary instructions to all the Registering Authorities in the State to take

							suitable action in the matter. Further, the Registering Authorities are also being directed to register the e-rickshaws (special purpose battery operated 3 wheeled vehicles) which are tested and issued with type approval certificates by the testing agencies in India as required under Rule 126 of Central Motor Vehicles Rules 1989. Further, the Government vide Notification No. SARIE 48 SAEPA 2018, dated 26.3.2018, has accorded sanction for issual of 5000 Electric Auto rickshaw permits under "Karnataka Electric Vehicle Policy 2017". Similarly, BMTC has initiated action to induct 1500 Electric buses in Bengaluru city. Therefore the action to induct battery operated vehicles is underway in phased manner. Further, the Transport Department has transferred an amount of Rs. 4.0 crore by the way of Deposit contribution to BESCOM for the purpose of establishing the charging stations for electric vehicles.
Vehicles	6	6	Initiate steps for retrofitting of particulate filters in diesel vehicles	Long	March 2020	Transport Department	The Transport Department has intended to enter into a memorandum of understanding (MOU) with Azim Premji Philanthropic Initiatives Pvt Ltd. Bengaluru and Clean Air Platform to work on the following:-

							1. Assistance for conducting pilot of on-road remote sensing of vehicle emissions in Bengaluru as per directions of the Hon'ble Supreme Court of India. 2. Conduct on road real world emission testing of vehicles in Bengaluru and public engagement campaign to raise awareness against use of highly polluting vehicles (study, research, policy making) **3. Support technology assessment and pilots for retrofitting of particulate filers in diesel vehicles.**
	7	7	To carry out a survey to identify more vulnerable roads with respect to congestion so as to regulate the traffic.	Mid	June -2019	Police Dept. (Traffic)	Bengaluru Traffic Police (BTP) has identified some important Roads, which have congestions to regulate the traffic. The name of the Roads are 1. Tumkur Road 2. Bellary Road 3. Kanakapura Road, 4. Mysore Road 5. Hosur Road 6. Old Madras Road 7. Bannerghatta Road
	8	8	To enforce lane discipline rules by stopping /parking of vehicles at designated bus bays/stop.	Short	It is a continuous program and in progress	Police Dept. (Traffic)	Bengaluru Traffic Police is booking cases of lane discipline. The No. of cases booked are as follows. <table><tr><th>Year</th><th>No. of lane discipline cases booked</th></tr><tr><td>2016</td><td>3,97,618</td></tr><tr><td>2017</td><td>4,58,167</td></tr></table>

<table>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td><table><tr><td>2018 (31.11.2018)</td><td>3,64,368</td></tr></table></td></tr>
<tr><td rowspan="3">Vehicles</td><td>9</td><td>10</td><td>Prevents and penalize parking of vehicles in non designated areas.</td><td>Short</td><td>It is a continuous program and in progress</td><td>Police Dept. (Traffic)</td><td>As of now 95 Towing vehicles are there and towing figure are as follows.<table><tr><th>Year</th><th colspan="2">No. of vehicle towed</th></tr><tr><th></th><th>Two wheeler</th><th>Four wheeler</th></tr><tr><td>2016</td><td>67,922</td><td>17,622</td></tr><tr><td>2017</td><td>1,62,729</td><td>1,07,720</td></tr><tr><td>2018</td><td>17,818</td><td>88,713</td></tr></table></td></tr>
<tr><td>10</td><td>11</td><td>To increase fine on vehicle owners (not drivers) where the visible smoke is emitted and noticed.</td><td>Mid</td><td>It is a continuous program and in progress</td><td>Police Dept. (Traffic)/RTO</td><td>Bengaluru Traffic Police is booking cases against vehicles emitting black smoke. The No. of cases booked are as follows.<table><tr><th>year</th><th>No. of emitting black smoke cases</th><th>Fine collected in (Rs)</th></tr><tr><td>2016</td><td>727</td><td>72700</td></tr><tr><td>2017</td><td>671</td><td>67100</td></tr><tr><td>2018</td><td>1810</td><td>181000</td></tr></table></td></tr>
<tr><td>11</td><td>36</td><td>To phase out all BS-III vehicles and to increase BH –IV fleet size of Bengaluru Metropolitan Transport Corporation gradually.</td><td>Mid</td><td>June -2019</td><td>BMTC</td><td>BMTC has a practice of scrapping the buses, which have covered 8.5 lakhs kms or 11 years of operation (whichever is earlier). As per this practice all BS-III vehicles will be phased out which are eligible as per the norms. At present, BMTC is operating 3000 BS-III norm buses, the procurement of these buses was</td></tr>
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							stopped during September-2011 onwards and only BS-IV norm buses are being procured and at present there are 3437 BS-IV norm buses in operation. All the BS-III norm buses will be scrapped in phased manner as and when they are eligible for scrapping.
	12	37	To increase the Bus service to all the satellite bus stands and last destination of BBMP area	Short	It is a continuous program and in progress	BMTC	At present transport facilities are being provided to different parts of city and sub urban areas of Bengaluru from important Bus Stations as per the demand and requirement of the public. BMTC operational jurisdiction is extended till 25kms from BBMP limits. The villages which comes under BMTC operational jurisdiction and roads which are suitable for the operation of heavy vehicles are been provided with the transport facility based on the demand and requirement. At present as on 06.04.2019 , BMTC is operating 1007 schedules with 15,715 trips to city area and 5186 schedules with 54,016 trips to sub urban areas totally 6193 schedules operating 69,731 trips and the present operated schedules/trips are as per the demand. Further, high traffic mobility places are being identified and transport facilities are being extended from important Bus stations and from other places which comes under the BMTC operational

							jurisdiction with a view to increase the modal shift to mass transport from personal mode of transportation. Thereby considerable decrease in the use of fossil fuels and to mitigate the air pollution.
Vehicles	13	38	To carryout regular vehicular emission monitoring of KSRTC and BMTC buses and take corrective action for meeting the tail pipe emission standards.	Short	It is a continuous program and in progress	BMTC	At Present, BMTC buses are being subjected to emission check on a monthly basis, for which all the depots are equipped with computerized smoke emission testing facilities. In the event of any bus emitting smoke beyond the permissible limit, action is being taken at the depot level to withdraw the bus from operation for taking corrective measures.
Vehicles	14	39	Induct electric buses in phased manner in Bengaluru city.	Long	March 2020	BMTC	BMTC has invited Expression of Interest (EoI) on 8.3.2019, for 1500 Electric buses in phased manner over a period of five years and also installation of charging infrastructure required for 1500 electric buses for eventual transition to e-mobility in BMTC.
Construction activity	15	13	To initiate action points for filling potholes and road cuttings to facilitate smooth flow of traffic.	Mid	It is a continuous program and in progress	BBMP	The work of filling up of potholes and road cuttings is a continuous work of maintenance and the same is being done regularly by the BBMP. In the last one year nearly 1,430 potholes have been filled up on major roads. Further, nearly 1,60,216 sq.mtr of damaged surface area has been rectified to make the traffic flow smooth. Further, regular asphalting and concreting of major roads as well as internal roads are being taken up for making the traffic flow smoother without causing congestion and noise and sound pollution.

	16	15	To construct more number of multilevel vehicle parking facilities.	Long	March 2022	BBMP	In BBMP there are 2 MLCP's constructed on PPP Model viz., at Maharaja Complex near K.G.Road, at Garuda Mall near Commissariat Road and 1 MLCP constructed by BBMP on J.C.Road. Further, BBMP is constructing MLCP near Freedom Park for 500 car parks and 500 two wheeler parking at a cost of Rs. 95.00 Crores. The project is likely to be completed by December-2019. Further, under Smart City Project of Bengaluru, BBMP has proposed for construction of Multi Level Car Parking at Gandhinagar, near Hosmat Hospital and near Gandhi Bazar. Apart from these MLCP's of BBMP, there are many MLCP's constructed by BMTC during the construction of TTMC (Traffic and Transportation Management Centres). It is a continuous process along with the growth of the city to cater the needs of vehicular parking, GoK will initiate suitable actions.
Construction activity	17	16	To take action to enforce covering of construction and demolition debris carried through trucks and create/approve facility for re-processing of C and D waste.	Mid	It is a continuous program and in progress	BBMP	To manage the construction and demolition waste in BBMP area, after due process of tenders the Government has accorded approval for setting up of 500 MT per day capacity C&D Plant at Kannur. This plant will be set up by the Agency at his own cost within a period of next 6 months. The process of collection of C&D waste from the City will be done

						by empanelment of agencies for collection of C&D waste from house hold and major builders. Further, under Nagarothanna scheme the development of C&D plants Rs. 15.00 Crores has been provided by the Government.
18	21	Prepare plan for widening of roads and improvement of infrastructure for decongestion of roads.	Long	March 2020	BBMP	Bruhat Bengaluru Mahanagara Palike (BBMP in short) has already widened many of the roads since 2008. Among them are Bellary Road, Palace Road, Race Course Road, Sheshadri Road, Kasturaba Road, Hosur-Laskar Road, Mysore Road, Sankey Road, Dickenson Road etc., BBMP has also taken up widening of Bannerghatta Road, Tannery Road, Varthur-Gunjur Road and Sarjapura Road at a cost of Rs.312.00 Crores and these works are under progress. Begur Road, Padarayanapura main road and Link road between Outer Ring Road to West of Chord Road are in pipeline for widening. In order to develop the CBD Roads comprchensively by giving priority in the order of pedestrians, cyclist, public transport and then to private transport, BBMP has implemented unique concept of road development called Tender SURE Project. In this project, nearly 12 roads are complete at a cost of Rs.200.00 Crores. The roads primarily developed under Tender SURE are Church Street, St.Marks

							Road, Commissariat Road, Cunningham Road, Vittal Mallya Hospital Road, K.G.Road, Nrupathunga Road, Siddaiah Puranik Road, Modi Hospital Road and 11th main Road Jayanagara. In the 2nd phase and 3rd Phase BBMP has planned to take up another 42 roads development under Tender SURE Project at a cost of nearly Rs.450.00 crores. Further, BBMP in order to make the traffic smooth and to ensure long life of the roads, White Topping Roads is taken up. These roads have a life span of nearly 25 to 30 years and free from potholes. In the 1st phase of implementation out of 92 kms, nearly 25 kms has been white topped. The total project cost in the 1st Phase is nearly Rs. 600.00 Crores and nearly 29 roads will be white topped. In the 2nd Phase 42 roads are taken up for white topping at a project cost of Rs. 690.00 Crores and tenders are already finalized and work orders are issued. These works will be started soon and completed within a period of one year.
Construction activity	**19**	**24**	Blacktopping of metaled roads including pavement of road shoulders	Long	It is a continuous program undertaken	BBMP	Bruhat Bengaluru Mahanagara Palike formed in the year 2007 and extends about 800 Sqkms with a road network of approximate 13000 kms. The roads in BBMP limit classified into 4 groups as below: 1. Arterial roads 2. Sub Arterial roads 3. Collector Streets

								4. Local Streets BBMP consists of 102 Nos. of Arterial Roads of length 730 kms, 290 Nos. of Sub Arterial & other Major roads of length 670 kms and approximate 81132 Nos. of Collector streets & Local Streets (Wards roads) of length 11522.00 kms. Earlier BMP area of approximate 250 sq kms road networks are covered with block top/White top and 7 City Municipal Council (CMC), 1 Town Municipal Council (TMC) and 110 villages are Newly added to BMP and Formed BBMP. Newly added City Municipal Council (CMC), 1 Town Municipal Council (TMC) and Villages areas Majority of Roads are undeveloped, Presently BWSSB taken up the Water Supply and Sanitary Pipeline Laying of about 5000 kms and work is in progress. 2018-19 Government of Karnataka allocated Rs.275.00 crores for Development of Roads and Restoration of Road cut portion done by BWSSB for laying water supply and sanitary pipelines in 110 village's area, approved action plan copy enclosed as **annexure-V.** Approximate 3000 Kms undeveloped roads in Newly added City Municipal Council (CMC), 1 Town Municipal Council(TMC) and Villages areas Roads Development works will be taken up in phased manner after completion of BWSSB pipeline laying work.

	20	26	To establish truck terminals on all major highways leading to Bengaluru in a phased manner.	Long	March 2020	BDA	Truck terminals to be constructed on all State and National highways as well as on major roads that comes under Bengaluru Development Authority (BDA) limits have been identified in the map of proposed Master Plan- 2031 for Bengaluru city dated 22/11/2017. This Master Plan has been submitted for final approval to Government of Karnataka(GoK).
	21	27	To create separate bus bays in new proposed BDA layout and Private layouts.	Long	March 2020	BDA/BBMP	BBMP has built 25 Bus bays in the available land within the BBMP limits and proposal submitted to Government for Rs.5.00 Crores under 2017-18 Government of Karnataka action plan. Construction of Bus Bays at suitable locations within Bengaluru Development Authority (BDA) limits has been taken up at the time of 'Scheme Map' approval. In addition, Rules have been formulated for the construction of Bus Bays under 'Zonal Regulation' in the proposed Master Plan- 2031 for Bengaluru City.
Construction activity	22	28	To construct flyovers/under pass at congested / highly traffic intersection of BBMP area in phased manner.	Long	March 2020	BBMP	BBMP so far as constructed nearly 22 Flyovers and 18 Underpasses in its jurisdiction. Further, BDA has constructed nearly 21 Flyovers and 6 Underpasses and the same are handed over to BBMP for maintenance purpose and the same are being maintained (list enclosed as **Annexure-VI a**). BBMP is also developing Signal Free Corridors on Old Airport Road, Old Madras Road, Outer Ring Road. The work on 8 lane corridor at Okalipuram at

							a cost of Rs. 127.00 Crores is under progress. Similarly, Elevated Corridor of nearly 2.4 kms, is under construction on Inner Ring Road from Ejipura Junction up to Hosur Road via Sony World Junction and Water Tank Junction (Sarjapura Road Junction) at a cost of Rs. 214.00 Crores. Total of 79 Grade Separators/Railway Over Bridge - Railway Under Bridge's have been constructed at Critical junctions in BBMP limits by BBMP, BDA and SWR, list enclosed as **Annexure-VI(b).** Further BBMP is presently constructing 14 Grade Separators/ROB-RUB's in BBMP limits, list enclosed as **Annexure-VII.** 37 Grade Separators and Railway Over Bridge / Railway Under Bridge are proposed are Different stages, list enclosed as **Annexure-VIII.**
	23	29	To create water fountains at traffic , intersections like Upparpet Police stations,	Mid	It is a continuous program and in	BBMP	BBMP has taken action to install 2 No's water fountains and Junction improvements works.
	24	33	To complete Metro Rail Route (Reach 2 & 3) as per schedule.	Long	Dec -2020	BMRCL	Bengaluru Metro Rail route reach-2 & 3 will be completed as per the schedule.
	25	35	To remove the Construction & Demolition (C&D) waste that is already dumped in the lakes in phased manner	Short	It is a continuous program and in progress	BMRCL	Action has been taken to remove the C & D waste dumped in the Kengeri lake. Already such C & D waste is shifted to designated place.

			(Ex.Kengeri and other lakes).				
	26	**40**	To construct satellite bus stands at all National high ways leading to Bengaluru.	Long	Dec-2020	KSRTC	In order to reduce the traffic congestion in the heart of the city, KSRTC has already established satellite bus stands at MCTC-Mysore Road, Basaveshwara bus station-Peenya and Shanthinagar bus station-Shanthinagar. Further it is very much essential to establish some more satellite bus stations at Hosur Road, Old Madras Road, Magadi Road, Nelamangala, Kanakapura Road as well as near Yelahanka on Bellary Hyderabad Road. The identification of lands for the proposed/ identified above mentioned traffic zones is under process.
Road dust	27	12	To take action to remove dust and silt from major roads regularly by deploying mechanical sweeping vehicles.	Short	It is a continuous program and in progress	BBMP	Bruhat Bengaluru Mahanagara Palike has an area of nearly 740.00 sq km. It is divided into 8 zones and the total road network of BBMP is nearly 13,000 kms. Among this 13,000 kms road network the Major Roads (Arterial and Sub-Arterial Roads) comprise of 1400kms. In order to remove the dust from these roads which are deposited besides the kerb edges as well as on median sides, BBMP has already procured 2 years ago nearly 8 truck mounted mechanical sweeping machines of 5 cum capacity at a cost of Rs. 90.00 lakhs each (Total Cost for 8 machines is Rs. 720.00 lakhs). Further, 1 ride on machine of capacity 1 cum at a cost of Rs. 45.00

							lakhs has been purchased to sweep smaller roads. During this year nearly 17 self propelled sweeping machines are being purchased at a cost of Rs. 135.00 lakhs for each of the machines (Total Cost for 17 machines is Rs. 2295.00 lakhs). The work order has already been issued for these machines and delivery will happen in next 2 months time. BBMP has also moved a proposal to the council to hire 16 street sweeping machine at a hire cost of Rs. 6.00 lakhs per machine per month. The proposal is before the council and awaiting approval. Further, BBMP has been provided grants under Nagarothanna to procure additional 16 street sweeping machines at a cost of Rs. 2160.00 lakhs. All these above machines would ensure removal of silt and dust from kerb sides and median sides on all the major arterial and sub-arterial roads which will help in reducing pollution levels on major roads.
Road dust	28	17	To suppress the dust by using treated water of BWSSB by sprinkling on the roads during night times in the areas where dust levels are high.	Short	It is a continuous program and in progress	BBMP	To suppress the dust from the roads as well as footpaths BBMP has planned for procurement of pressure jet cleaners/ washers which would help in cleaning of the roads and footpaths. Under Nagarothanna Grants Rs. 5.00 Crores has been provided for purchase of these pressure jet cleaners.

							These machines will be procured in the next 6 months time. The usage of these machines will be done with the treated water from BWSSB Treatment Plants.
	29	34	To sweep the street using mechanical suction vacuum cleaner, where the metro construction work is under progress and sprinkle water to suppress the dust emission.	Short	It is a continuous program and in progress	BMRCL	Work sites are being maintained clean and water sprinkling is done regularly to avoid dust and air pollution. Water sprinkling is in progress regularly.
Other Air pollution Control measures	30	14	To remove encroachment of footpaths by hawkers in market places and relocate in the designated places as per Street Vendors Act.	Short	It is a continuous program and in progress	BBMP	The removal of encroachments of footpaths by the hawkers is a continuous activity by the BBMP. Recently, by the orders of the Hon'ble High Court encroachments by the hawkers were removed by BBMP at K.R.Market. These exercises of removal of encroachments by the hawkers are being taken up at major markets such as Madiwala Market, Russel Market, Johnson Market, Malleshwaram Market etc.
	31	18	Strictly implement notification No.FEE 06 ENG 2017 dated: 03.08.2017 issued by the Department of Forest, Ecology and Environment regarding prohibition of open burning of solid waste	Short	It is a continuous program and in progress	BBMP	BBMP has appointed Marshals for imposing penalty on people burning solid waste in the City. In this regard, each of the wards 1 junior health inspector has been appointed to manage solid waste by segregation of wet and dry wastes. There are more than 160 dry waste segregation centers established in BBMP limits to handle dry waste collected on day to day basis. BBMP has also established 7 waste

			in the city.				processing plants for processing of wet waste to convert to compost. The burning of waste is mainly by general public and trouble mongers who lit fire on open garbage on streets. Measures have been taken up to catch hold of such persons and impose penalty with the help of Marshals.
	32	19	To create green buffer along the traffic corridor/ greening of open areas, developing gardens, greening in schools.	Mid	It is a continuous program and in progress	BBMP	BBMP has independent forest & Horticulture department which looks after plantation of Avenue Trees and also development of parks. BBMP has developed so far nearly 1,400 parks (small, medium, large parks). In order to develop these new parks and maintain these parks BBMP spends nearly Rs. 40.00 Crores per annum. Further, from the forest department every year Nursery is being developed and Rs. 2.00 Crores per year is earmarked for Avenue Plantation and pruning of tree branches.
Other Air pollution Control measures	33	20	To create separate space/zone/ to handle solid waste , C&D waste and any other waste in all BBMP wards / BDA new layouts	Long	March 2020	BBMP	Bruhat Bengaluru Mahanagara Palike has an area of 740 sqkm and present population of BBMP is nearly 1.25 crores. Bengaluru generates nearly 4,200 MT per day solid waste. Out of these 4,200 MT of waste nearly 600 MT of waste is sent to 7 waste processing plants. Nearly 500 MT of wastes is processed at M/s. MSGP Infratech Pvt Ltd, Bengaluru. BBMP has also established nearly 160 dry waste collection centers and in these DWCC nearly 100 MT of dry waste is handled. The remaining waste of

							nearly 2500 MT is scientifically disposed at landfill sites. To manage the construction and demolition waste in BBMP, after due process of tenders the Government has accorded approval for setting up of 500 MT per day capacity C&D Plant at Kannur. This plant will be set up by the Agency at his own cost within a period of next 6 months. The process of collection of C&D waste from the City will be done by empanelment of agencies for collection of C&D waste from house hold and major builders.
	34	22	Plants of specific native species which are absorbing fine dust where the pollution levels are very high viz., Central Silk Board, Whitefield industrial area, Mysore road and other areas.	Long	March 2020	BBMP	BBMP has independent forest & Horticulture department which looks after plantation of Avenue Trees and also development of parks. BBMP has developed so far nearly 1,400 parks (small, medium, large parks). In order to develop these new parks and maintain these parks BBMP spends nearly Rs. 40.00 Crores per annum. Further, from the forest department every year Nursery is being developed and Rs. 2.00 Crores per year is earmarked for Avenue Plantation and pruning of tree branches.
Other Air pollution	35	25	To increase the green cover by planting trees in Bengaluru city where empty spaces are available on road	Mid	It is a continuous program undertaken	BDA/BBMP/ KSPCB	Action plan has been prepared for planting and maintenance of 68800 plants during the current year 2019-20 and submitted to the Board of Bangalore Development Authority for approval. Action is

			sides, industrial premises, public parks, etc.				initiated.
	36	44	To make an action points to ensure round the clock supply of electricity to Bengaluru city	Long	June -2020	Dept of Energy and BESCOM	Bengaluru city is having sufficient power supply.
Industrial pollution	37	23	KIADB to earmark adequate land in industrial areas surrounding Bengaluru for the purpose of establishing truck terminals by the Department of Transport & Road safety Department.	Long	March 2020	KIADB	KIADB is earmarking and reserving 5% of the total industrial area for "Surface Parking" in all new industrial Areas developed and being developed by KIADB. Details of Surface Parking Areas earmarked in new Industrial Areas of KIADB in Bengaluru Metropolitan Region is appended as **Annexure-II**
Fuel adulteration	38	30	Prevent and penalize adulteration of fuel with cheap oils and solvents	Short	It is a continuous program and in progress	Food and Civil Supplies Department	The Deputy Director and Food inspectors of the Food and Civil Supplies Department of Bengaluru city, Bengaluru Rural District have conducted 21 inspections from past two years, out of which one case is recorded.
	39	31	Gradually restrict sale of un-scientifically reprocessed oil by the street vendors	Long	Mar-2020	Food and Civil Supplies Department and KSPCB	The Food and Civil Supplies Department have conducted 13 inspections in past two years, out of which one case is recorded. The Karnataka State Pollution Control Board through regular inspections ensure that, all the used oil generated is diverted to the registered reprocessing units under the Hazardous Waste

							Management Rules -2016. The list of registered re-processing units is enclosed as **Annexure-III.**
	40	32	Periodic check of all petrol bunks established in Urban and Rural Districts of Bengaluru and initiate action against the violators.	Short	It is a continuous program and in progress	Food and Civil Supplies Department	The Deputy Director and Food inspectors of the Food and Civil Supplies Department of Bengaluru city, Bengaluru Rural District have conducted 61 inspections of petrol bunks in past two years and no fuel adulteration case is reported.
Source Apportionment Study	41	41	To conduct Source Apportionment Study of Bengaluru (BBMP area).	Mid	June -2020	KSPCB	Centre for Study of Science, Technology and Policy (CSTEP), Bengaluru has entered the MoU with Department of Ecology and Environment, GoK to carry out Inventerisation of sources and Source Apportionment Study of Bengaluru city at an estimated cost of Rs 3.00 Crores. This Scientific and Industrial Research Organization has started the study from March 2019.
Public awareness	42	9	Launch public awareness program Campaign for air pollution control, vehicle maintenance, minimizing the use of personal vehicles, lane discipline etc.	Short	It is a continuous program and in progress	Police Dept. (Traffic) and Transport Department	Traffic Police has requested that, Pollution Control Board should take initiative, Bengaluru Traffic Police will support. In view of the above, the Karnataka State Pollution Control Board has procured 12 Nos mobile vehicular emission monitoring vehicles. Out of 12 Nos, 6 Nos. are deployed to Bengaluru City. The Board is conducting "Joint monitoring of vehicular emission at Bengaluru city including other major cities along with Transport & Road Safety Department, Traffic

						Police, and concerned area Regional Offices of KSPCB. From Transport Department Every month Bus day (4th of every month) and Less Traffic Day (2nd Sunday of every month) have been conducted in order to minimize the use of personal vehicles.
43	**42**	To carryout ambient air quality monitoring of air pollutants and publish the Air Quality Index (AQI) in the website and communicate the Air Quality Status to the line departments on regular basis.	Ongoing	It is a continuous program and in progress	KSPCB	The Board has established 36 manual ambient air quality monitoring stations and 29 CAAQMS in Karnataka covering all Districts including 13 manual and 7 CAAQMS exclusively for Bengaluru city. The Real Time AQI value is available in Board website and manual stations AQI values are uploaded monthly. The results will be communicated to the line departments through SMS on daily basis.
44	**43**	Carryout regular monitoring of industries and initiate action against the defaulting industries.	On going	It is a continuous program and in progress	KSPCB	The Board carried out 157 Stack monitoring of industries in and around Bengaluru during the year 2018-19 and taking action against defaulting industries. Also for self-monitoring, Online Continuous Emission Monitoring Systems (OCEMS) are installed in nine of the highly polluted industries (17 Categories) including Common Facilities (Common Bio-Medical Waste Incinerators & Common Hazardous Waste Incinerators) in Bangalore city. For

							defaulters personal hearing are being conducted twice in a year and directions are being issued to rectify the issues related to Monthly Exceedence, Constant data & Offline Analyzers within a stipulated period. To cross verify the OCEMS data the concerned regional officers of KSPCB are instructed to inspect and carry out manual monitoring.

Sd/-
Chairman
Air Quality Monitoring Committee &
Principal Secretary, DEE, GoK

Sd/-
Member Convener
Air Quality Monitoring Committee &
Member Secretary, KSPCB